EXAMINER'S AMENDMENT & REASONS FOR ALLOWANCE

I. **EXAMINER'S AMENDMENT:**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Xin Ma (Reg. No. 57,555) on 05/01/2009.

The application has been amended as follows:

In the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A computer-implemented method for correcting an XML electronic document, the XML electronic document having a structure, the method comprising:

identifying a validation error in the XML electronic document structure, the validation error being an aspect of the XML electronic document structure that fails to conform to rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind, wherein identifying the validation error includes building a deterministic finite automation from a content model defined in a document type definition of the XML electronic document and identifying the validation error using the deterministic finite automaton;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggestion template including logic necessary for modifying the XML electronic document structure in conformance with the rules of the XML document type definition or the XML schema, wherein modifying the XML electronic document structure comprises retagging an element in the XML electronic document structure and moving an element from a current location to a new location in the XML electronic document structure;

receiving an input selecting one of the suggested corrections; and

using the logic in the selected suggestion template to apply the correction selected by the input to the XML electronic document.

2. (Currently Amended) The method of claim 1, wherein:

identifying ~~a~~ an aspect of the XML electronic document structure includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the XML electronic document.

3-8. (Cancelled)

9. (Previously Presented) The method of claim 1, wherein:

suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.

10. (Cancelled)

11. (Original) The method of claim 1, wherein suggesting one or more changes to a user comprises:

requesting information from a user about the identified structural aspect; and

based on input received in response to the request, suggesting to the user one or more changes that would correct the identified structural aspect.

12. (Currently Amended) The method of claim 1, wherein:

identifying an aspect of the XML electronic document structure that fails to conform to rules associated with the XML electronic document includes identifying one or more structural aspects of the XML electronic document that fail to conform to the rules associated with the document; and

applying the correction selected by the input includes applying the correction selected by the input to the XML electronic document, thereby bringing the entire XML electronic document into conformance with the rules.

13. (Currently Amended) A computer-implemented method for validating and correcting an XML electronic document, the XML electronic document having a structure, the method comprising:

recursively validating a parent element of the XML document structure by:

validating attributes of the parent element,

validating a content model of the parent element, and

recursively validating one or more children of the parent element;

identifying a validation error in the XML electronic document, the validation

error being an aspect of the XML electronic document structure that fails to conform to one or more rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind, wherein identifying the validation error comprises building a deterministic finite automaton from a content model defined in a document type definition of the XML electronic document and identifying the validation error using the deterministic finite automaton;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggestion template including logic necessary for modifying the XML electronic document structure in conformance with the rules of the XML document type definition or the XML schema, wherein modifying the XML electronic document structure comprises retagging an element in the XML electronic document structure and moving an element from a current location to a new location in the XML electronic document structure;

receiving an input selecting one of the suggested corrections; and

using the logic in the selected suggestion template to apply the correction selected by the input to the XML electronic document.

14. (Cancelled)

15. (Previously presented) The method of claim 13, further comprising:

checking a root element against a DOCTYPE root tag specified in the rules associated with the XML document; and

allowing a user to retag the root element using the DOCTYPE root tag.

16. (Currently Amended) A computer program product tangibly embodied in a machine-readable storage device for correcting an XML electronic document, the XML electronic document having a structure, the product comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

identifying a validation error in the XML electronic document structure, the validation error being an aspect of the XML electronic document structure that fails to conform to rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind, wherein identifying the validation error comprises building a deterministic finite automaton from a content model defined in a document type definition of the XML electronic document and identifying the validation error using the deterministic finite automaton;

selecting a suggestion template from among multiple suggestion templates

according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggestion template including logic necessary for modifying the XML electronic document structure in conformance with the rules of the XML document type definition or the XML schema, wherein modifying the XML electronic document structure comprises retagging an element in the XML electronic document structure and moving an element from a current location to a new location in the XML electronic document structure;

receiving an input selecting one of the suggested corrections; and

using the logic in the selected suggestion template to apply the correction selected by the input to the XML electronic document.

17. (Previously Presented) The computer program product of claim 16, wherein:

identifying an aspect of the XML electronic document structure includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the XML electronic document.

18-23. (Cancelled)

24. (Previously Presented) The computer program product of claim 16, wherein:

suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.

25. (Cancelled)

26. (Original) The computer program product of claim 16, wherein suggesting one or more changes to a user comprises:

requesting information from a user about the identified structural aspect; and

based on input received in response to the request, suggesting to the user one or more changes that would correct the identified structural aspect.

27. (Currently Amended) The computer program product of claim 16, wherein:

identifying an aspect of the XML electronic document structure that fails to conform to rules associated with the XML electronic document includes identifying one or more aspects of the XML electronic document structure that fail to conform to rules associated with the document; and

applying the correction selected by the input includes applying the correction

selected by the input to the XML electronic document, thereby bringing the entire XML electronic document structure into conformance with the rules.

28. (Currently Amended)) A computer program product tangibly embodied in a machine-readable storage device for validating and correcting an XML electronic document, the XML document having a structure, the product comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

recursively validating a parent element of the XML document structure by:

validating attributes of the parent element,

validating a content model of the parent element, and

recursively validating one or more children of the parent element;

identifying a validation error in the XML electronic document, the validation error being an aspect of the XML electronic document structure that fails to conform to one or more rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind, wherein identifying the validation error comprises building a deterministic finite automaton from a content model defined in a document type definition of the XML electronic document and identifying the validation error using the deterministic finite automaton;

selecting a suggestion template from among multiple suggestion templates

according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggestion template including logic necessary for modifying the XML electronic document structure in conformance with the rules of the XML document type definition or the XML schema, wherein modifying the XML electronic document structure comprises retagging an element in the XML electronic document structure and moving an element from a current location to a new location in the XML electronic document structure;

receiving input selecting one of the suggested corrections; and

using the logic in the selected suggestion template to apply the correction selected by the input to the XML electronic document.

29. (Cancelled)

30. (Previously presented) The computer program product of claim 28, further comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

checking a root element against a DOCTYPE root tag specified in the rules associated with the XML document; and

allowing a user to retag the root element using the DOCTYPE root tag.

31-32. (Cancelled)

33. (Currently Amended) A system, comprising:

a device hosting an electronic document application; and

a processor configured to perform operations comprising:

identifying a validation error in the XML electronic document, the XML electronic document having a structure, the validation error being an aspect of the XML electronic document structure that fails to conform to rules of an XML document type definition or an XML schema, the rules being associated with the XML electronic document, the validation error being of a particular kind, wherein identifying the validation error includes building a deterministic finite automaton from a content model defined in a document type definition of the XML electronic document and identifying the validation error using the deterministic finite automaton;

selecting a suggestion template from among multiple suggestion templates according to the particular kind of the validation error, and using the selected suggestion template to suggest to a user suggested corrections that are predefined in the template for the particular kind of validation error, the selected suggestion template including logic necessary for modifying the XML electronic document structure in conformance with the rules of the XML document type definition or the XML schema, wherein modifying the XML electronic document structure comprises retagging an element in the XML electronic document structure and moving an element from a current location to a new

location in the XML electronic document structure;

receiving an input selecting one of the suggested corrections; and

using the logic in the selected suggestion template to apply the correction selected by the input to the XML electronic document.

34. (Previously Presented) The system of claim 33, wherein:

identifying an aspect of the XML electronic document structure includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the XML electronic document structure.

35-36. (Canceled)

37. (Previously Presented) The system of claim 33, wherein:

suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.

38. (Previously Presented) The method of claim 1, wherein:

the template is implemented as a list of commands.

39. (Cancelled)

40. (Previously Presented) The method of claim 13, wherein:

the template is implemented as a list of commands.

41. (Previously Presented) The computer program product of claim 16, wherein:

the template is implemented as a list of commands.

42. (Cancelled)

43. (Previously Presented) The computer program product of claim 28, wherein:

the template is implemented as a list of commands.

44. (Previously Presented) The system of claim 33, wherein:

the template is implemented as a list of commands.

45-51. (Canceled)

II. **ALLOWABLE SUBJECT MATTER:**

Claims 1-2, 9, 11-13, 15-17, 24, 26-28, 30, 33-34, 37-38, 40-41, and 43-44 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not expressly teach or render obvious the invention as recited in independent Claims 1, 13, 16, 28, and 33.

The features as recited in independent Claims 1, 13, 16, 28, and 33 *"identifying the validation error includes building a deterministic finite automation from a content model defined in a document type definition of the XML electronic document and identifying the validation error using the deterministic finite automaton, the selected suggestion template including logic necessary for modifying the XML electronic document structure in conformance with the rules of the XML document type definition or the XML schema, and modifying the XML electronic document structure comprises retagging an element in the XML electronic document structure and moving an element from a current location to a new location in the XML electronic document structure"*, when taken in the context of the claims as a whole, were not uncovered in the prior art teachings.

Dependent claims are allowed as they depend upon allowable independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact information

III. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maikhanh Nguyen whose telephone number is (571) 272-4093. The examiner can normally be reached on Monday - Friday from 9:00am – 30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached at (571) 272-4137.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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